BOBROV, Ivan Vladimirovich; KRICHEVSKIY, Ruvim Markovich; RYZHENKO, I.A., kand. tekhn. nauk, retsenzent

[Combatting sudden outbursts of coal and gas] Bor'ba s vnezapnymi vybrosami uglia i gaza. Kiev, Tekhnika, 1964. 327 p. (MIRA 18:3)

16(1)

AUTHOR: Krichevskiy, R.Ye. SOV/20-126-6-11/67

TITLE: On the Complexity of the Realization of Functions by Superpositions

PERIODICAL: Doklady Akademii nauk SSSR,1959,Vol 126,Nr 6, pp 1195 - 1198 (USSR)

ABSTRACT: The results of the present paper are essentially already published in a lecture of S.V. Yablonskiy [Ref 9]. Some generalizations of [Ref 9] overlap with the results of O.B. Lupanov, F.Ya. Vetukhnovskiy and others.
There are 9 references, 6 of which are Soviet, and 3 American.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova AN SSSR (Mathematical Institute imeni V.A. Steklov AS USSR)

PRESENTED: January 17, 1959, by M.V. Keldysh, Academician
SUBMITTED: January 13, 1959

Card 1/1

9(5) PHASE I BOOK EXPLOITATION SOV/3176

Problemy kibernetiki, vyp. 2 (Problems of Cybernetics, No. 2) Moscow, Fizmatgiz, 1959. 323 p. Errata slip inserted. 18,000 copies printed.

Ed.: A. A. Lyapunov; Compilers-Editors: O. B. Lupanov, B. Yu. Pil'chak, S. V. Yablonskiy, and Yu. I. Yanov; Eds.: A. A. Konoplyankin, and M. L. Smolyanskiy; Tech. Ed.: S. N. Akhlamov.

PURPOSE: The purpose of this collection of articles is to organize scientific papers on cybernetics and to unite the efforts and interests of Soviet scientists working in this field.

COVERAGE: This is the second volume of "Problemy kibernetiki", dealing with problems of biology, mathematics and engineering as they relate to cybernetics. The first volume, which appeared in 1958, considered problems of programming, machine translation and computer design. Future volumes propose to include a still greater number of subjects related to cybernetics. The editors list 5 recent Soviet books (including 2 translations) dealing with cybernetics. They thank the following persons for their help in preparing the book for publication: O. V. Vakulovskaya, T. L. Gavrilova, A. A. Muchnik, B. I. Pinikov, M. L. Tsetlin and V. S. Shtarkman. References follow each article.

Val'skiy, R. E. (Leningrad). On the Least Number of Multiplications for Raising to a Given Power 73

The author presents his method of computation. There are no references.

PART II. THEORY OF CONTROL SYSTEMS

Yablonskiy, S. V. (Moscow). On Algorithmic Difficulties Encountered in the Synthesis of Minimum Switching Circuits 75

The author attempts to explain algorithmic difficulties arising when solving problems of cybernetics which allow for a trivial solution on the basis of the classical definition of the algorithm. However, such a solution is impracticable because of its cumbersomeness. The author suggests two variations for the solution of the problem. One consists in renouncing the minimum of circuits. The other consists in renouncing investigation of all the functions of the algebra of logic. There are 27 references: 21 Soviet (3 translations), 5 English and 1 French.

Krichevskiy, R. Ye. (Moscow). On the Realization of Functions by Superpositions 123

The article consists of three parts. In the first part the author presents fundamental definitions: the superposition of elementary objects, realization, and the simplicity index. In the second part, the fundamental result (the value of $L(D_n)$, which is the upper bound of the indexes of the simplest constructions expressing functions of D_n) is obtained if the realizing constructions are superpositions of elementary objects. In part 3, a study is made of the consequences of the fundamental theorem pertaining to multi-value logic and the theory of networks. There are 13 references: 6 Soviet, 5 English and 2 German.

Tsetlin, M. L., and L.M. Shekhtman (Moscow). Two-cycle Ferro-transistor Circuits and Algebraic Methods of Their Synthesis 139

The authors aim at developing a regular algebraic method of synthesis of two-cycle ferro-transistor circuits, which recently have found rapidly increasing application in analog and digital computers and automatic control systems. Mathematical analysis is based on algebra of logic. The authors thank the following persons for their help: Professors K.P. Teodorchik and N. Ye. Kobrinskiy, and S.V. Yablonskiy, O.B. Lupanov, N.Ya. Matyukhin and Yu.B. Pil'chak. There are 22 references, 11 Soviet (4 are translations), 10 English and 1 German.

PART III. PROGRAMMING

Glushkov, V.M. (Kiyev). On a Method of Automatizing Programming 181

The author briefly reviews existing methods of automatic programming programs, which attempt to make the process of programming as automatic as that of computing. This can be done by creating a "library" of programming programs and adapting a method of "operational programming." There are no references.

Stogniy, A.A. (Kiyev). Principles of Developing a Specialized Automatic Programming System 185

The method of automatic programming suggested by V.M. Glushkov (see preceeding article) is being developed at the Computing Center of the Academy of Sciences, USSR. It consists in the creation of a [illegible] library of specialized programming programs, and of pr[illegible] selecting the method and system of [illegible] [illegible]

KRICHEVSKIY, R.YE.

L 18244-63 EWT(d)/FCC(w)/BDS AFFTC/ASD/ESD-3/APGC/IJP(C) Pg-4

ACCESSION NR: AP3004415 S/0020/63/151/004/0803/0806

AUTHOR: Krichevskiy, R. Ye.

TITLE: Complexity of contact circuits realizing one function of the algebra of logic.

SOURCE: AN SSSR. Doklady*, v. 151, no. 4, 1963, 803-806

TOPIC TAGS: circuit, contact circuit, parallel-series contact circuit, algebra of logic.

ABSTRACT: Author attempts to prove 2 theorems. An arbitrary contact circuit not containing breaking contacts and realizing the function $f_0(x_1, \ldots, x_n)$ has no less than $C_2 n \log_2 n$ contacts, where C_2 is a certain positive constant (theorem 2). There is a minimum parallel-series contact circuit realizing the above function and not containing breaking contacts. Therefore, the arbitrary contact parallel-series circuit realizing $f_0(x_1, \ldots, x_n)$ has not less than $C_2 n \log_2 n$ contacts. Author then

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ACCESSION NR: AP3004415

uses this as a basis for proving the two theorems stated in the article. Orig. art. has: 1 figure and six formulas

ASSOCIATION: Institut matematiki s vy*chislitel'nym tsentrom Sibirskogo otdeleniya AN SSSR (Institute of mathematics with Computer Center, Siberian division, AN SSSR).

SUBMITTED: 14Feb63 DATE ACQ: 21Aug63 ENCL: 00

SUB CODE: CP NO REF SOV: 004 OTHER: 001

Card 2/2

L 31277-65 EWT(d)/T Ph-4 IJP(c)
ACCESSION NR: AR5004816 S/0044/64/000/011/V033/V033

SOURCE: Ref. zh. Matematika, Abs. 11V191

AUTHOR: Krichevskiy, R. Ye.

14
B

TITLE: Estimate of the complexity of a PI network for one function of algebraic logic

16

CITED SOURCE: Sb. Diskretnyy analiz, vyp. 1, Novosibirsk, 1963, 13-23

TOPIC TAGS: algebraic logic, logic network, network synthesis, contact network

TRANSLATION: The paper contains an interesting result pertaining to the realization of functions of algebraic logic by means of formulas (or, what is the same, by contact Π-circuits). In the paper of C. E. Shannon (Bell System Technical Journal 1949, 28, No. 1, 59)

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ACCESSION NR: AR5004816

it was shown that for almost all functions of algebraic logic of n arguments, the complexity (in the sense of the number of contacts) of a minimal contact circuit depends on n exponentially. However, there have been very few examples constructed of functions for which the minimum contact networks have a nonlinear dependence of complexity on the number of arguments. These are the results of Markov (RZhMat, 1963, 7V280), Subbotina (KZhMat, 1961, 8A76), and Lyapunov (RZhMat, 1963, 1V142). Lyapunov has shown that for the function

$$f_k(x_1, \ldots, x_n) = \bigvee_{1 \le i < j \le n} x_i x_j$$

the minimum contact network without opening contacts has a complexity

$$c \frac{n \cdot \log_2 n}{\log_2 \log_2 n}.$$

The author of the reviewed paper considers the realization of the same function by means of formulas in a basis $V, \&, \neg$. By complexity

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ACCESSION NR: AR5004816

of this formula is meant the number of signs of the variables contained in it. The main result consists in the following. The complexity $L(f_0(x_1, \ldots, x_n))$ of the simplest of the formulas realizing the function $f_0(x_1, \ldots, x_n)$ is not lower than $(1/4)n \log_2 n$. N. Karpova.

SUB CODE: MA

ENCL: 00

Card 3/3

L 18806-65 AFMD(p)/RAEM(d)/ESD(c)/RAEM(t)/ESD(gs)/ESD(dp)
ACCESSION NR: AT5000716 S/2582/64/000/012/0045/0055

AUTHOR: Krichevskiy, R. Ye. (Novosibirsk)

TITLE: On the complexity of parallel-series contact scheme realizing one sequence of Boolean functions

SOURCE: Problemy* kibernetiki, no. 12, 1964, 45-55

TOPIC TAGS: Boolean function, switching circuit, logic circuit

ABSTRACT: Earlier work by C. E. Shannon (The synthesis of two-terminal switching circuits, Bell Syst. Techn. J. 28, 1, 1949) and by Shannon and J. Riordan (The number of two-terminal series-parallel networks, J. Math and Phys. 21, 2, 1942, 83-93) gave some insight into the complexities of circuit design for Boolean functions. The author proves that an arbitrary parallel-series circuit, realizing a Boolean function $S_n(x_1,\ldots,x_n)$, has no more than $c_2 n \log_2 n$ contacts, where c_2 is a constant. It is also shown that an arbitrary scheme of switch contacts, realizing the same function, has no more than $c_3 n \log_2 n$ contacts, where c_3 is a constant. The author's results are in agreement with the work of V. K. Korobkov (Realizatsiya simmetricheskikh funktsii v klasse TT-skhem, DAN SSSR, 109, 2, 1956).

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L 18806-65
ACCESSION NR: AT5000716

By mathematical induction the author proves that minimal complexity function L(n) is upper-bounded by $L^A(n)$, that is $L(n) \leq L^A(n)$, where $L^A(n)$ is given by the recursive formula $L^A(n) = n + L^A\left(\left[\frac{n}{2}\right]\right) + L^A\left(n - \left[\frac{n}{2}\right]\right)$. The proof proceeds with the verification of a fundamental lemma by induction. Then a lower bound theorem is proved, showing that $L(n) > \frac{1}{4} n \log_2 n$. Another lemma is proved showing that $L(S^*) \leqslant 2L(S)$. Combination of the proven propositions verifies the author's original hypothesis of the upper limit of contacts. Orig. art. has: 3 figures and 21 equations.

ASSOCIATION: none

SUBMITTED: 10May63

SUB CODE: DP

NO REF SOV: 009

ENCL: 00

OTHER: 002

Card 2/2

L 05674-67 EWT(d)/T IJP(c)

ACC NR: AR6023247 SOURCE CODE: UR/0044/66/000/003/V056/V056

AUTHOR: Krichevskiy, R. Ye.

REF SOURCE: Sb. Diskretn. analiz. Vyp. 5. Novosibirsk, 1965, 89-92

TITLE: A minimal circuit made up of closed contacts for a Boolean function of n arguments

SOURCE: Ref. zh. Matematika, Abs. 3V199

TOPIC TAGS: logic circuit, Boolean algebra

TRANSLATION: The problem is that of realizing functions of algebraic logic

$$f(x_1, \ldots, x_n) = \bigvee_{1 \le l < l' \le n} x_l \cdot x_{l'}$$

in circuits made up of closed contacts. In the class of such circuits for a function $f(x_1, \ldots, x_n)$ the Shannon function $L(n)$ is introduced in the usual manner. In particular, it was established by O. B. Lupanov (*RZhMat*, 1963, 1B142) (in connection with a different problem) that

$$L(n) > \frac{c_1 \cdot n \cdot \log_2 n}{\log_2 \log_2 n}.$$

Then R. Ye. Krichevskiy (in the collection "Problems of Cybernetics," Series 12, Moscow, "Science," 1964, 45-55) improved this estimate: $L(n) > c_2 \cdot n \cdot \log_2 n$, $c_2 \le 1$.

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ACC NR: AR6023247

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Anzel (*RZhMat*, 1965, 1B207) in turn improved that result. He showed that $L(n) > n \cdot \log_2 n$. The last estimate conforms asymptotically with the upper estimate for $L(n)$ obtained by V. K. Korobkov (*RZhMat*, 1958, 4558). Thus it was established that $L(n) \sim n \log_2 n$. The author finds an exact expression for $L(n)$ and gives a minimal circuit which realizes $f(x_1, \ldots, x_n)$. It turns out that

$$L^*(n) = n \cdot [\log_2 n] + 2(n - 2^{[\log_2 n]}).$$

V. Kudryavtsev.

SUB CODE: 12/ SUBM DATE: none

Card 2/2

L 08786-67 EWT(d) IJP(c)

ACC NR: AT6025801 SOURCE CODE: UR/3221/63/000/001/0013/0023

AUTHOR: Krichevskiy, R. Ye.

19

ORG: none

TITLE: The bound of the complexity of a π-scheme for one function of the algebra of logic

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut matematiki. Diskretnyy analiz, no. 1, 1963, 13-23

TOPIC TAGS: algebraic logic, isomorphism, algebra, set theory, function, minimization

ABSTRACT: The problem of finding a minimal scheme of a definite type that realizes a given function of the algebra of logic is examined. It is proved that any series-parallel contact scheme (π-scheme) that realizes the function $f_0(x_1, \ldots, x_n)$ has not less than $c_2 \cdot n \cdot \log_2 n$ contacts, where c_2 is some constant. If $x_1 + \ldots + x_n = 1$, then $g(x_1, \ldots, x_n) = 0$. Then there exists a function $g^*(x_1, \ldots, x_n) \in H^*(g(x_1, \ldots, x_n))$, one of the minimal formulas for which has the form

$$\bigvee_{i=1}^{I} (\forall x_\ell)(\forall x_{\ell'}) ,$$

where A_i and A_i' are subsets of the set $\{1, 2, \ldots, n\}$, $A_i \cap A_i' = \phi$; if A_i is empty,

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L 08786-67

ACC NR: AT6025801

then A_i' is empty, and vice versa. The function $f_0(x_1, \ldots, x_n)$ has a minimal formula $F_0(x_1, \ldots, x_n)$ such that

$$|m_i(F_0(x_1,\ldots,x_n)) - m_j(F_0(x_1,\ldots,x_n))| \leq 1 \quad (i \neq j,\ i,j=\overline{1,n}).$$

It is also proved that the function L(n) satisfies the inequality

$$L(n) \geq \frac{1}{4} \cdot n \cdot \log_2 n.$$

Orig. art. has: 17 formulas.

SUB CODE: 12/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 2/2 nst

ACC NR: AP6036751 SOURCE CODE: UR/0020/66/171/001/0037/0040

AUTHOR: Krichevskiy, R. Ye.

ORG: Institute of Mathematics of the Siberian Department, Academy of Sciences, SSSR (Institut matematiki Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: The length of a block necessary for receiving an assigned surplus

SOURCE: AN SSSR. Doklady, v. 171, no. 1, 1966, 37-40

TOPIC TAGS: information theory, cybernetics, information retrieval, computer science

ABSTRACT: Consider a source generating ν mutually independent letters with probability. $p_1, \ldots, p_\nu$, $p_1 + \ldots + p_\nu = 1$, $\nu \geq 2$. These letters are termed letters of the the input alphabet. A series of letters generated by the source will be divided into blocks (words) of length n, and these blocks will be coded as words of a two-letter output alphabet. The mean number of letters of the output alphabet per letter of the input under optimal coding is denoted as $\bar{l}(n)$, and the difference $A(n) = l(n) - H$, where $H = -p_1 \log p_1 - \ldots - p_\nu \log p_\nu$ is called the coding surplus. The author shows in this article that if at

 UDC: 519.92

ACC NR: AP6036751

least one of the values of $\log_2 p_i / p_j \ (i, j = 1, \ldots, \nu)$ is irrational, then $\lim_{n\to\infty} nA(n) = \log_2 \log_2 e - 1/2$ In the converse case $\overline{\lim_{n\to\infty}} nA(n) \neq \underline{\lim_{n\to\infty}} nA(n)$. Furthermore, $\underline{\lim_{n\to\infty}} nA(n) = 0$ in the case and only in the case where all values are integer. The theorem is stated and proved:
For any n there can be found such an optimal code and such a word u_0, that nearly all words are long and satisfy the inequality

$$[\log_2 p(u_0) / p(u)] \leq l(u) - l(u_0) \leq \log_2 [p(u_0) / p(u)] + 1.$$

where $p(u) = p_1^{k_1(u)} \ldots p_\nu^{k_\nu(u)}$, and $k_1(u)$ is the entry number of the i^{th} letter of the input alphabet of the word u, $k_1(u) + \ldots + k_\nu(u) = n$. This theorem leads to a formula for computing A(n). This paper was presented by Academician S. L. Sobolev on 22 January 1966. Orig. art. has: 15 equations and 1 table.

SUB CODE: 09,12 / SUBM DATE: 18Jan66 / ORIG REF: 003 / OTH REF: 003

Card 2/2

GRISHMAN, I.D.; KRICHEVSKIY, S.B.

Centralized control and regulation of molding equipment. Kauch. i rez. 19 no.3:49-53 Mr '60. (MIRA 13:6)

1. Zavod "Krasnyy treugol'nik".
(Leningrad--Rubber industry--Equipment and supplies)
(Molding machines)

Krichevskiy, S. S.

GROSSMAN, E. P., S. S. KRICHEVSKIY, and A. A. BORIN.

K voprosu o potere ustoichivosti konstruktsiei kryla v polete.
Moskva, 1935. 63 p., diagrs. (TSAGI. Trudy, no 202)

Summary in English

Bibliography: p. 55.

Title tr.: Problem of loss of stability of the wing structure in flight.

QA911.M65 no. 202

KRICHEVSKIY, S.Z.

In the Soviet Geophysical Committee. Geofiz.biul. no.12:88-96 '62. (MIRA 16:5)

(Geophysics)

KRICHEVSKIY, Vladimir Davydovich; LANGSEPP, O.V., red.

[Metal coating and repair work] Metallizatsiia i remontnye raboty. Tallinn, Gos.kom-t Soveta Ministrov Estonskoi SSR po koordinatsii nauchno-issl. rabot, 1964. 74 p. (MIRA 18:10)

KOZ'MINA, N.Yu., inzh., red.; KRICHEVSKIY, Ya.M., red.; FILIPPOVICH, P.V., red.; PETROV, S.P., tekhn.red.

[Metallurgical production] Metallurgicheskoe proizvodstvo. Moskva, TSentr. biuro tekhn. informatsii, 1957. 47 p. (MIRA 11:4)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
(Metallurgy)

LISITSINA, E.F.; KRICHEVSKIY, Ya.M., inzh., red.; CHERKEZ, Yu.S., red.; PETROV, S.P., tekhn.red.

[Technology of making large-size shaped castings of structural steel] Tekhnologiia proizvodstva krupnogabaritnogo fasonnogo lit'ia iz konstruktsionnoi stali. Moskva, TSentr.biuro nauchno-tekhn.informatsii tiazhelogo mashinostroeniia, 1959. 51 p. (MIRA 12:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (TsNIITMASh) (for Lisitsina).
(Steel castings)

BELYAKOV, Ye.P., otv. red.; GINZBURG, M.Ya., otv. red.; KRICHEVSKIY, Ya.M., otv. red.; MELIK-GAYKAZOV, V.I., otv. red.; TIKHONOVA, Ye.D., red.; SELEZNEV, P.I., tekhn. red.

[Rolling mills]Stany prokatnye. Moskva, TSINTImash, 1960. 137 p. (MIRA 15:11)

1. Russia (1923- U.S.S.R.)Gosudarstvennyy nauchno-tekhnicheskiy komitet.

(Rolling mills)

MARKIN, S.V., kand. tekhn. nauk; KHICHEVSKIY, Ya.M., red.; KOVAL'SKAYA, I.F., tekhn. red.

[Manufacture and use of steel rolls for structural and merchant mills; survey] Proizvodstvo i primenenie stal'nykh valkov dlia sortovykh stanov; obzor. Moskva, TSentrl in-t nauchno-tekhn. informatsii mashinostroeniia, 1961. 37 p. (MIRA 14:11)

(Rolls (Iron mills))

ARCHIVE COPY

133-9-12/23

AUTHOR: Mednikov, Yu.A., Engineer and Krichevskiy, Ye.M.

TITLE: The Production of Electrically-welded Tubes from Cut Strip of Rimming Steel (Proizvodstvo elektrosvarnykh trub iz rezanoy lenty kipyashchey stali)

PERIODICAL: Stal', 1957, No.9, pp. 819 - 822 (USSR).

ABSTRACT: The possibility of using rimming steel 08кп, МСт.1, МСт2 for the production of tubes by electrical welding of cut strip was investigated. Strip was rolled in two stages from various steels and tubes made on electro-welding mill 10-60. The following factors were studied: a) the distribution of segregations and places of lamination along the length and width of strip; b) the distribution of elements in steel and deviations from the chemical composition of the metal; c) the distribution and the degree of non-uniformity of mechanical properties of metal; d) the frequency of appearance of laminations during contact-welding of tubes; e) the quality of welded metal; f) comparative data on the proportion of defects and consumption of metal. The distribution along the length and width of strip of segregations and deviations in the composition and mechanical properties of metal from corresponding limits are shown in Figs. 1, 2 and 3 and 4. On the basis of the results obtained, it is concluded that the use of rimming steel for the

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133/9-12/23

The Production of Electrically-welded Tubes from Cut Strip of Rimming Steel.

production of tubes by contact-welding is possible and advantageous. In order to establish optimum technological data and technical-economical indices of the process, it is necessary to organise mass production and investigation of tubes from rimming steel. There are 4 figures and 4 references, 2 of which are Slavic.

ASSOCIATION: Chelyabinsk Tube Rolling Mill (Chelyabinskiy Truboprokatnyy Zavod)

AVAILABLE: Library of Congress.

Card 2/2

KRICHEVSKIY, Ye.M.

MEDNIKOV, Yu.A.; KRICHEVSKIY, Ye.M.

Removal of internal burr from arc-welded pipes. Biul. TSNIICHM no.16:49-51 '57. (MIRA 11:5)

1. Chelyabinskiy truboprokatnyy zavod (for Mednikov). 2. Moskovskiy trubnyy zavod (for Krichevskiy).
(Pipe)

S/137/62/000/001/086/237
A052/A101

AUTHORS: Matveyev, Yu.M., Krichevskiy, Ye.M.

TITLE: Some theoretical problems of strip molding in molding stands of tube-welding mills

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 1, 1962, 32, abstract 1D211 (V sb. "Stal'", Moscow, Metallurgizdat, 1961, 355 - 364)

TEXT: The state of stress in the deformation seat is considered at bending the strip on roll-bending mills and in dies, and the causes of cold hardening and of formation or absence of crimps on the strip edge are explained. Four types of calibrations are used on the tube molding mills: segment, flat strip with bent edges, same none-flat strip and angle. The calibrations used can be classified into 3 main groups: open gauges for flat strip, open gauges for non-flat strip and closed ones with a split washer. In view of the high stability of the bent strip against buckling, the maximum deformation must be applied in the 2nd group gauges; in the 1st and 3rd group gauges, especially when coiling the strip, the bending must be decreased to avoid the crimp formation. By the published methods of calculation the number of stands is usually more than necessary

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S/137/62/000/001/086/237
A052/A101

Some theoretical problems ...

in practice and on the contrary less when molding thin-wall profiles. Curves for determining the optimum coiling radius, depending on the relative length of the deformation seat and with the allowance for the strip thickness, are given for the case of segment molding; the curves differ considerably from those published previously. There are 5 references.

Ye. Bukhman

[Abstracter's note: Complete translation]

Card 2/2

S/130/62/000/003/002/00
A006/A101

AUTHORS: Krichevskiy, Ye. M., Gol'berg, V. Ya.

TITLE: New calibrating of argon-arc electric pipe welding machine

PERIODICAL: Metallurg, no. 3, 1962, 25-27

TEXT: The 20-102 type argon-arc electric pipe welding machine, mounted at the Moscow Pipe Plant, consists of three units with three stands each. Two units are equipped with vertical rolls and the distance between the stand axes is 610 mm; one of the units is without vertical rolls; the distance between the axes of the stands is 400 mm. This design makes it possible to calibrate the rolls with one radius which decreases from the first stand in direction of folding. The advantages of this calibration are: the effective distribution of bending angles over the stands, and the use of 3 stands with split disks. Formulae are given for the analytical expression of optimum distribution of bending angles. Tests were run with pipes of 25 mm in diameter folded and welded on grooves intended for 33 m diameter; the rolls were replaced on the 3 finishing stands with split disk. The pipes were then folded and welded on grooves intended for pipes of 25 mm in diameter. The same tests were performed

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New calibrating of argon-arc ...

with 16 mm diameter pipes on grooves intended for 25 and 16 mm diameters. The tests show that the folding of pipes on double-radius grooves, which are calculated for larger pipe diameters, yield more satisfactory results than folding on grooves for pipes of one diameter. The use of vertical rolls between 3 stands with split disks is highly expedient. There is 1 figure.

ASSOCIATION: Moskovskiy trubnyy zavod (Moscow Pipe Plant)

POLUKHIN, P. I., prof., doktor tekhn. nauk; OSADCHIY, V. Ya., kand. tekhn. nauk; RYMOV, V. A., inzh.; GOLOVKIN, R. V., inzh.; KRICHEVSKIY, Ye. M.

Experimental investigation of power parameters of electric pipe welding machines. Sbor. Inst. stali i splav. no.40:451-459 '62. (MIRA 16:1)

1. Moskovskiy institut stali i Moskovskiy trubnyy zavod.

(Electric welding—Equipment and supplies)

MATVEYEV, Yu.M., kand.tekhn.nauk; KRICHEVSKIY, Ye.M., inzh.; RYMOV, V.A., inzh.

Speed conditions on continuous electric pipe welding machines. Stal' 22 no.2:148-152 F '62. (MIRA 15:2)

1. Gosudarstvennyy soyuznyy institut po proyektirovaniyu metallurgicheskikh zavodov i Moskovskiy trubnyy zavod.
(Electric welding—Equipment and supplies)
(Pipe—Welding)

MATVEYEV, Yuriy Mikhaylovich; AGRE, Valentin L'vovich; VATKIN, Yuriy Yakovlevich; KRICHEVSKIY, Yevgeniy Markovich; RYMOV, V.A., red.

[Welded pipe; workers' handbook] Svarnye truby; spravochnoe rukovodstvo dlia rabochikh. Moskva, Izd-vo "Metallurgiia," 1964. 188 p. (MIRA 17:5)

GERSHKOVICH, Ye.A., inzh.; KRICHEVSKIY, Yo.S., kand.tekhn.nauk

Foreign air-humidity transducers. Priborostroenie no.11:27-28 N '65. (MIRA 18:12)

KRICHEVSKIY, Ye.S., red.

[Moisture and humidity control and regulation] Kontrol' i regulirovanie vlazhnosti. Pod red. E.S.Krichevskogo. Leningrad, 1963. 147 p. (MIRA 17:1)

1. Leningrad. Komissiya po avtomaticheskomu kontrolyu i regulirovaniyu vlazhnosti.
(Atomic control) (Moisture) (Humidity)

(MIRA 16:7)

PHASE I BOOK EXPLOITATION 959

Krichevskiy, Yevgeniy Samoylovich, Fedorovich, Leonid Grigor'yevich, and Fetisov, Vladimir Fedorovich

Elektrooborudovaniye optiko-mekhanicheskikh priborov (Electrical Equipment of Optical-Mechanical Instruments) Moscow, Oborongiz, 1958. 467 p. 8,000 copies printed.

Reviewers: Vertsner, V.N., Candidate of Physical and Mathematical Sciences, Kruger, M.Ya., Engineer, Shoshin, I.A., and Sobolev, S.F.; Ed.: Dulin, V.N., Candidate of Technical Sciences; Ed. of Publishing House: Bogomolova, M.F.; Tech. Ed.: Pukhlikova, N.A.; Managing Ed.: Sokolov, A.I., Engineer.

PURPOSE: This monograph has been approved as a textbook for tekhnikums by the Administration of Secondary Professional Schools of the Ministry of Higher Education, USSR. The book is addressed to students taking courses in the design and construction of optical-mechanical instruments and equipment. It may also be of use to engineering and technical personnel in the industry.

COVERAGE: This book describes basic electrical devices and systems, their design and their special form as applied to optical-mechanical instruments and equipment. The book contains selected reference material necessary to the student

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for design projects. According to the authors, the present work is the first attempt to systematize the varied material on the subject of electric circuits and systems of optical-mechanical equipment. Part I of Chapter 3, and Parts I and III of Chapters 4, 5, 8 and 9 were written by Ye.S. Krichevskiy. Part II of Chapters 1, 2, and 3, and Part II and IV of Chapters 7 and 9 were written by V.F. Fetisov. Chapter 6 was written by L.G. Fedorovich. The authors thank Candidate of Physical and Mathematical Sciences, V.N. Vertsner and Engineers M.Ya. Kruger, S.F. Sobolev, and I.A. Shoshin for their help in editing the book. There are 132 references, all Soviet (including 3 translations).

TABLE OF CONTENTS:

KRICHEVSKIY, Ye. S., Cand Tech Sci (diss) -- "A comparative investigation of certain electric grain-moisture meters". Leningrad, 1960. 24 pp (Min Agric USSR, Leningrad Agric Inst, Engineering Faculty), 250 copies (KL, No 10, 1960, 131)

KRICHEVSKIY, Yevgeniy Samoylovich ; KHRUSTALEVA, N.I., red. izd-va; YEZHOVA, L.L., tekhn. red.

[Laboratory work in general electric engineering] Laboratornye raboty po obshchei elektrotekhnike. Moskva, Gos. izd-vo "Vysshaia shkola," 1962. 122 p. (MIRA 16:6)
(Electric engineering--Laboratory manuals)

KRICHEVSKIY, Ye.S.; GERSHKOVICH, Ye.A.

International symposium on moisture measurement. Izm.tekh. no.8:60-61 Ag '64. (MIRA 17:12)

KRICHEVSKIY, Yu.A.; KLYACHKO, V.S.

Cancer of the stomach accompanied by pulmonary carcinosis in an 18-year-old girl. Vrach.delo no.1:87-88 Ja '58. (MIRA 11:3)

1. Klinika infektsionnykh bolezney (zav.-prof. I.R.Braude) Khar'kovskogo meditsinskogo instituta i 22-ya Khar'kovskaya infektsionnaya klinicheskaya bol'nitsa.
(STOMACH--CANCER) (LUNGS--CANCER)

KRICHEVSKIY, Yu.A., KLYACHKO, V.S.

Botkin's disease with complicating phlegmon of the large intestine
Vrach.delo no.9:967-969 S'58 (MIRA 11:10)

1. 22-ya infektsionnaya klinicheskya bol'nitsa g. Khar'kova.
(HEPATITIS, INFECTIOUS)
(INTESTINES--DISEASES)

KRICHEVSKIY, Yu.A., KLYACHKO, V.S.

Obliterating phlebitis of the hepatic veins; Chiari's disease.
Sov.med. 22 no.8:137-139 Ag '58 (MIRA 11:10)

1. Iz 22-y infektsionnoy klinicheskoy bol'nitsy Khar'kova (glavnyy vrach M.Ya. Sukharev) i kafedry patologicheskoy anatomii (zav. -dots. M.A. Tishchenko) Khar'kovskogo instituta usovershenstvovaniya vrachey.
(VEINS, HEPATIC, dis.
Chiari synd. (Rus))

BORZOV, Yu.N.; KRICHEVSKIY, Yu.A.

Treatment of infectious mononucleosis with prednisone. Vrach.delo no.10:101-102 O '60. (MIRA 13:11)

1. Klinika knfektsionnykh bolezney (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent G.A.Fridman) Khar'kovskogo meditsinskogo instituta.
(MONONUCLEOSIS)
(PREGNADIENETRIONE)

KRICHEVSKIY, Yu.A.

Electrophoretic analyses of blood protein fractions in typhus fever. Lab.delo 7 no.7:19-25 Jl '61. (MIRA 14:6)

1. Klinika infektsionnykh bolezney (zav. - dotsent G.A.Fridman) Khar'kovskogo meditsinskogo instituta.
(PAPER ELECTROPHORESIS) (BLOOD PROTEINS)
(TYPHUS FEVER)

KRICHEVSKIY, Yu.A., aspirant

Dynamics of protein fractions of the blood serum in acute and chronic dysentery. Trudy Khar. med. inst. no.50:[illegible] '62.

Electrophoretic examination of blood serum proteins in patients with typhoid fever and paratyphoid fever. [illegible]
(MIRA 19:1)

1. Kafedra infektsionnykh bolezney (ispolnyayushchiy obyazannosti zaveduyushchego kafedroy - dotsent G.A. Fridman) Khar'kovskogo meditsinskogo instituta.

KRICHEVSKIY, Yu.M., inzhener.

Jib crane mounted on a truck body. Mekh. stroi. 4 no.2:6-8 F '47. (MLRA 9:2)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut proyektov tyazhelogo mashinostroyeniya.
(Cranes, derricks, etc.)

S/100/60/000/009/003/005
A053/A026

AUTHORS: Krichevskiy, Yu.M.; Stepanov, A.I.; Engineers

TITLE: New Building Crane МКГ-20 (MKG-20)

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1960, No. 9, pp. 16 - 18

TEXT: The Central Designing Bureau of the Administration of Mechanization of Special and Assembling Works of the Ministry of Construction of the RSFSR has designed a new 20-ton caterpillar crane MKG-20, to be used in the industrial building trade. The crane has diesel-electric equipment which feeds motors of individual driving gears of the various mechanisms. Provision is also made for feeding of power from outside sources. Boom equipment provides for three lengths of boom - 12.5, 22.5 and 32.5 m, the basic length permitting to be extended twice by 10 m; an extra 5 meter extension is provided by the jib in the head of the crane. The mechanism of the crane and its electric system permit independent operational movements with speeds of varying combinations. The caterpillar tread and high road clearance ensure roadability and maneuverability on the site. The technical characteristics of the crane MKG-20 with 12.5 boom are given as follows: Maximum load moment - 92 t/m; overhanging length of boom, maximum - 12 m, minimum 3.8 m;

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New Building Crane МКГ-20 (МКG-20)

S/100/60/000/009/003/005
A053/A026

lifting capacity of the main hook, on an overhanging length of 3.8 - 4.6 m - 20 t, on 12 m length - 4.6 t; lifting capacity of auxiliary hook - 3 t; speed of lift of main hook - 2.9, 6.2 m/min; speed of descent of main hook - 1,4, 7.5 m/min speed of lift and descent of auxiliary hook - 6 - 19 m/min; revolving speed of platform - 0.5 rpm; speed of crane movement: - working speed - 0.65 km/h, road speed - 1.3 km/h; average speed of change of overhanging length of boom - 3.1 m/min total power of installed electric motors 53.2 kw; width of caterpillar chain - 550 mm; specific pressure on ground 1 kg/cm^2; road clearance - 450 mm; weight of crane 36.5 t. The boom is equipped with an overhanging head. The minimum angle of incline is 5° of the vertical. The pitching motion of the revolving part of crane, a usual feature of cranes with a roller-supported revolving structure, is done away with in the MKG-20 by means of a double-row ball bearing mechanism, which connects without clearance the revolving and the stationary parts of the crane. The crane has separate mechanisms for the principale lift and for the auxiliary lift, a mechanism for changing the overhanging length of boom, a revolving mechanism, and a locomotive mechanism. Most mechanisms employ standard parts and units, used also in other types of cranes. The locomotive mechanism consists of two symmetrical units, each of which has a two-speed electric motor with a shorted rotor; the first speed is intended for the working speed and the second

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New Building Crane МКГ-20 (MKG-20)

for road work. The mechanical part of each of these two units consists of a double-stage cylindrical reducer situated on the inside of the caterpillar and a planetary reducer placed on the outside of it. These reducers are connected with a shaft passing through the hollow hub of the driving wheel of the caterpillar. All control organs are placed inside the cabin. The test models of MKG-20 produced by the Kuybyshev and the Chebarkul'sk Plants have passed successfully all tests. There are 2 figures.

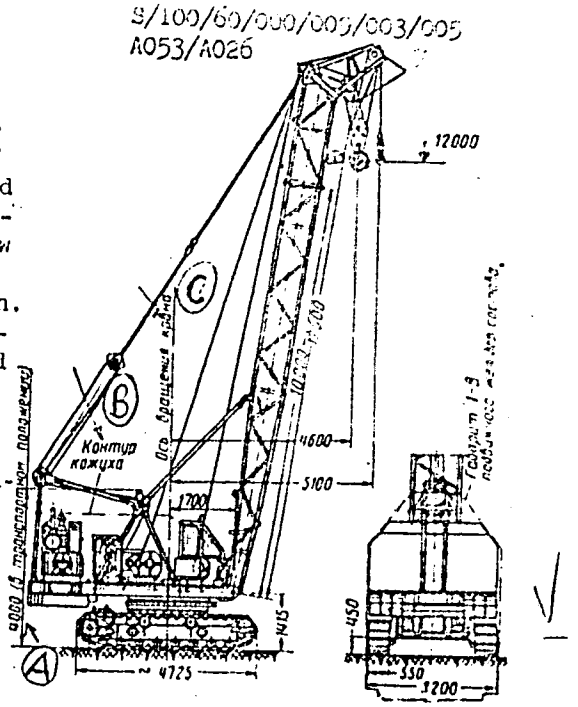

Figure 1: Crane MKG-20 with boom 12.5 m long A - 4000 (set up for transportation); B - contour of cover; C - revolving axis of crane

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S/100/60/000/009/003/005
A053/A026

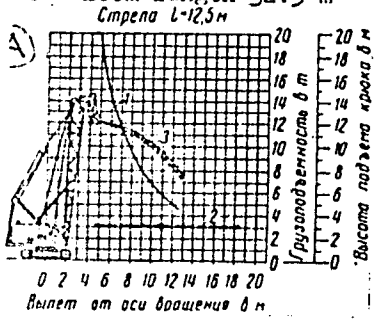
New Building Crane МКГ-20 (МКС-20)

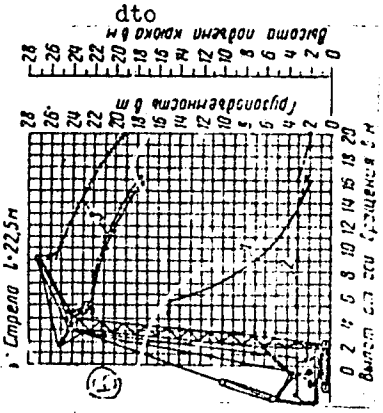
Figure 2: Graphs of lifting capacity and height of lift of load: 1 - curve of lifting capacity with main hook; 2 - curve of lifting capacity with auxiliary hook; 3 - height of lift of hook

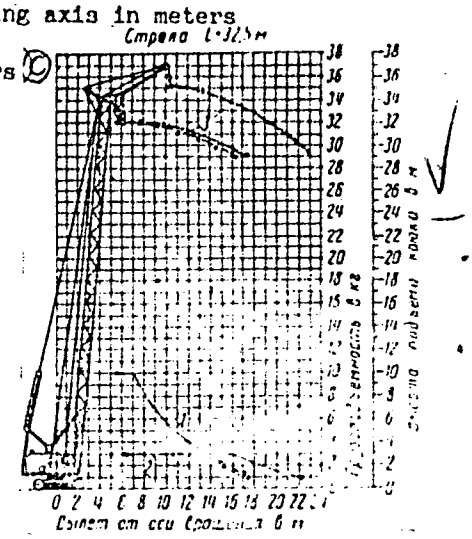
A - Boom length 12.5 m overhanging length from revolving axis in meters
lifting capacity in t.
height of lift of hook in meters

B - Boom length 22.5 m dto

C - Boom length 32.5 m dto







Card 4/4

KRUK, Z. A., and ANTONOV, A. A.

Protecting the Automobile Engine. Peoples' Commissariat of Municipal Affairs Press, Moscow-Leningrad, 1940.

KUCHEVSKIY, Z. A.

Primenenie fil'trov tonkoi ochistki masla na dvigatelyakh avtomobilei GAZ-MM i GAZ-M1. Moskva, Izd-vo Min-va kommun. khoz-va RSFSR, 1950. 22 p. illus.

Use of fine oil filters on GAZ-MM and GAZ-M1 automobile engines.

DLC: TL215.G2K7

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

[illegible], Z. A.

PHASE I Treasure Island Bibliographical Report AID [illegible] - I

BOOK

Call No.: TL151.A9

Authors: [illegible], L. A., [illegible], N. V., [illegible], L. T., [illegible], T. T., [illegible], G. V., [illegible], Z. A., and LEVIN, D. M.

Full Title: [illegible] (2nd revised edition)

Transliterated Title: Avtotransportnyy spravochnik

Publishing Data

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House of Literature on Machine Building

Date: 1953 | No. pp.: 3[illegible] | No. copies: [illegible],000

Editorial Staff

Editor: Afanas'yev, L. L., Cand. Techn. Sci.

Tech. Ed.: None

Ed.-in-Chief: Broksh, V. V., Eng.

Appraisers (1st edition): Yefremov, V. V. and Semskov, P. F., Eng.

Text Data

Coverage: The handbook contains technical information on [illegible], servicing and repair of Soviet passenger cars, busses, trucks, and trailers. Questions of [illegible] planning, management, and [illegible] are discussed and illustrated with numerical examples. Characteristics and specifications are given for materials and parts used in servicing and

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Card 2/3 [illegible]

[illegible] Title: [illegible]
[illegible]

Coverage (cont.):

results, such as fuels (gasolines, diesel fuels, [illegible] fuels for gas generators), lubricants, antifreezes, [illegible] fluids. Materials for auto parts and tools, their thermal treatment, allowable clearances, and tolerances in moving parts are discussed. [illegible] outlines basic characteristics of automobiles, buses and trucks, [illegible] [illegible], and describes methods of [illegible], [illegible] for starting, etc.

The book may be of interest for [illegible] in the general and technical management of Soviet automobile transportation.

Purpose: This handbook is prepared for engineers and [illegible] engaged in automobile transportation.

Facilities: The handbook was revised in accordance with [illegible] All-Union State Standards (GOST) and results of [illegible] of the Central Scientific Research Institute of Automobile Transportation (TsNIIAT) and other research and design organizations. Consideration was also given to comment and [illegible] [illegible] by the [illegible] Section of the All-Union Scientific Engineering and Technical Society of Machine Building (VNITOMASh).

No. Russian and Slavic References: 8(195[illegible]-52)

Available: Library of Congress

KRICHEVSKIY, Z.

BARANOV, M., kandidat tekhnicheskikh nauk; KRICHEVSKIY, Z., inzhener; ARONOV, N., tekhnik.

Preheating for welding automobile engine cylinder blocks. Avt.transp.33 no.1:18-21 Ja'55. (MLRA 8:3)
(Automobile--Engines)(Welding)

BARANOV,M.S., kandidat tekhnicheskikh nauk; KRICHEVSKIY,Z., inzhener

Letter to the editor. Vest.mash.35 no.7:47 Jl'55. (MLRA 8:10)
(Cast iron--Welding) (Saenko,I.G.)

BRONSHTEYN, L.A.; BRUSYANTSEV, N.V.; [illegible] L.T.; GROZOVSKIY, T.S.; KRAMARENKO, G.V., [illegible] S'YEV, L.L. kandidat tekh[illegible]; [illegible] inzhener, redaktor; MODEL', B.I., tekhnicheskiy redaktor.

[Motor transport manual] Avtotransportnyi spravochnik. Izd.3-e, ispr. i dop. Pod obshchei red.L.L.Afanas'eva. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 739 p. (MLRA 9:5)
(Automobiles--Handbooks, manuals, etc.)(Transportation, Automotive)

BARANOV, M. kand.tekhn.nauk; KRICHEVSKIY, Z., inzh.

Using fusing agents for automatic building-up of automobile parts.
Avt.transp. 35 no.2:24-26 F '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta.
(Electroplating) (Automobiles--Repairing)

BRONSHTEYN, L.A., kand.tekhn.nauk; BRUSYANTSEV, N.V., kand.tekhn.nauk; GRECHINSKAYA, L.T., inzh.; GROZOVSKIY, T.S., kand.tekhn.nauk; KRAMARENKO, G.V., kand.tekhn.nauk; KRICHEVSKIY, Z.A., inzh.; LEVIN, D.M., kand.tekhn.nauk [deceased]. Prinimali uchastiye: BEGTEREV, G.N., kand.tekhn.nauk; SHEYNIN, A.M., kand.tekhn.nauk; SHLIPPE, I.S., kand.tekhn.nauk; NAYDENOV, B.F., inzh. AFANAS'YEV, L.L., kand.tekhn.nauk, red.; VASIL'YEVA, I.A., red.izd-va; UVAROVA, A.F., tekhn.red.

[Handbook for automotive transportation] Avtotransportnyi spravochnik. Izd.4., ispr. i dop. Pod obshchei red. L.L.Afanas'eva. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 819 p. (MIRA 13:12)
(Transportation, Automotive--Handbooks, manuals, etc.)

KRICHEVSKIY, Z.

The right path for the development of productivity. Prom.koop. 14 no.1:19 Ja '60. (MIRA 13:5)

1. Tekhnoruk arteli invalidov "Molodaya gvardiya," Moskva.
(Moscow--Knit goods industry)

DERGACHEV, A., kand.ekonomicheskikh nauk; ROZENBERG, L , kand.tekhn.nauk;
[illegible]VSKIY, Z., inzh.

Technical and economic expediency of repairing motor-vehicle parts.
Avt.transp. 38 no.9:27-29 S '60. (MIRA 13:9)
(Motor vehicles--Maintenance and repair)

L 11108-66 (N) EWT(m)/EWP(e)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) ID/HM/H
ACC NR: AP6002531 SOURCE CODE: UR/0286/65/000/023/0036/0036

INVENTOR: Petrov, S. A.; Kaufman, M. S.; Kinlyuk, F. I.; Zhuravlev, V. L.; Krichevskiy, Z. A.; Aldyrev, D. A.; Kazintsev, N. V.; Tkachev, V. N.

27
B

ORG: none

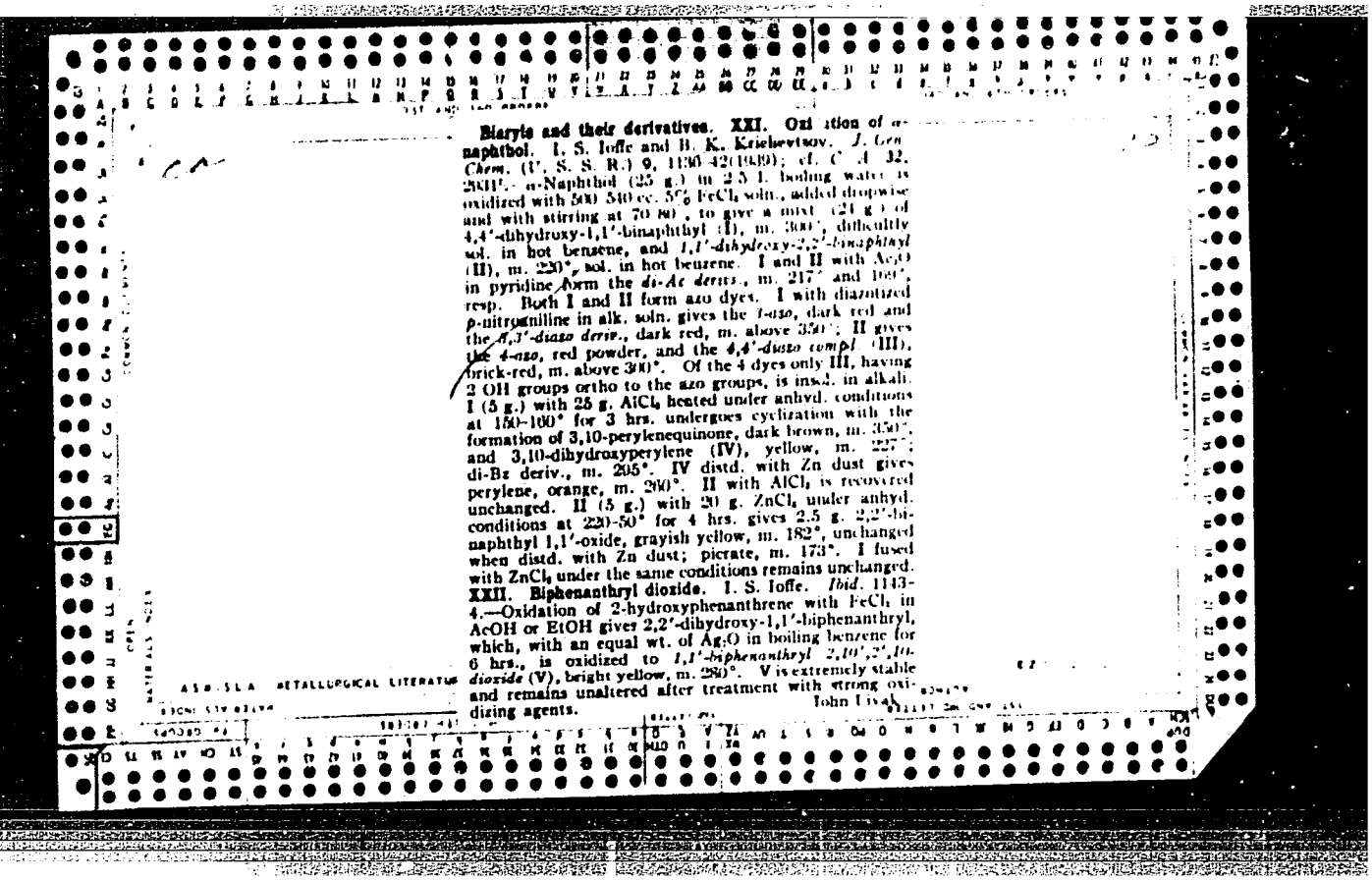
TITLE: Method of strengthening thin-sheet parts. Class 21, No. 176646. [announced by the All-Union Scientific Research and Design Technological Institute of Coal Machine Building (Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-tekhnologicheskiy institut ugol'nogo mashinostroyeniya); Rostov Scientific Research Technological Machine Building Institute (Rostovskiy nauchno-issledovatel'skiy institut tekhnologii mashinostroyeniya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 36

TOPIC TAGS: thin sheet part, part strengthening, part surfacing, thin sheet surfacing, wear resistant powder

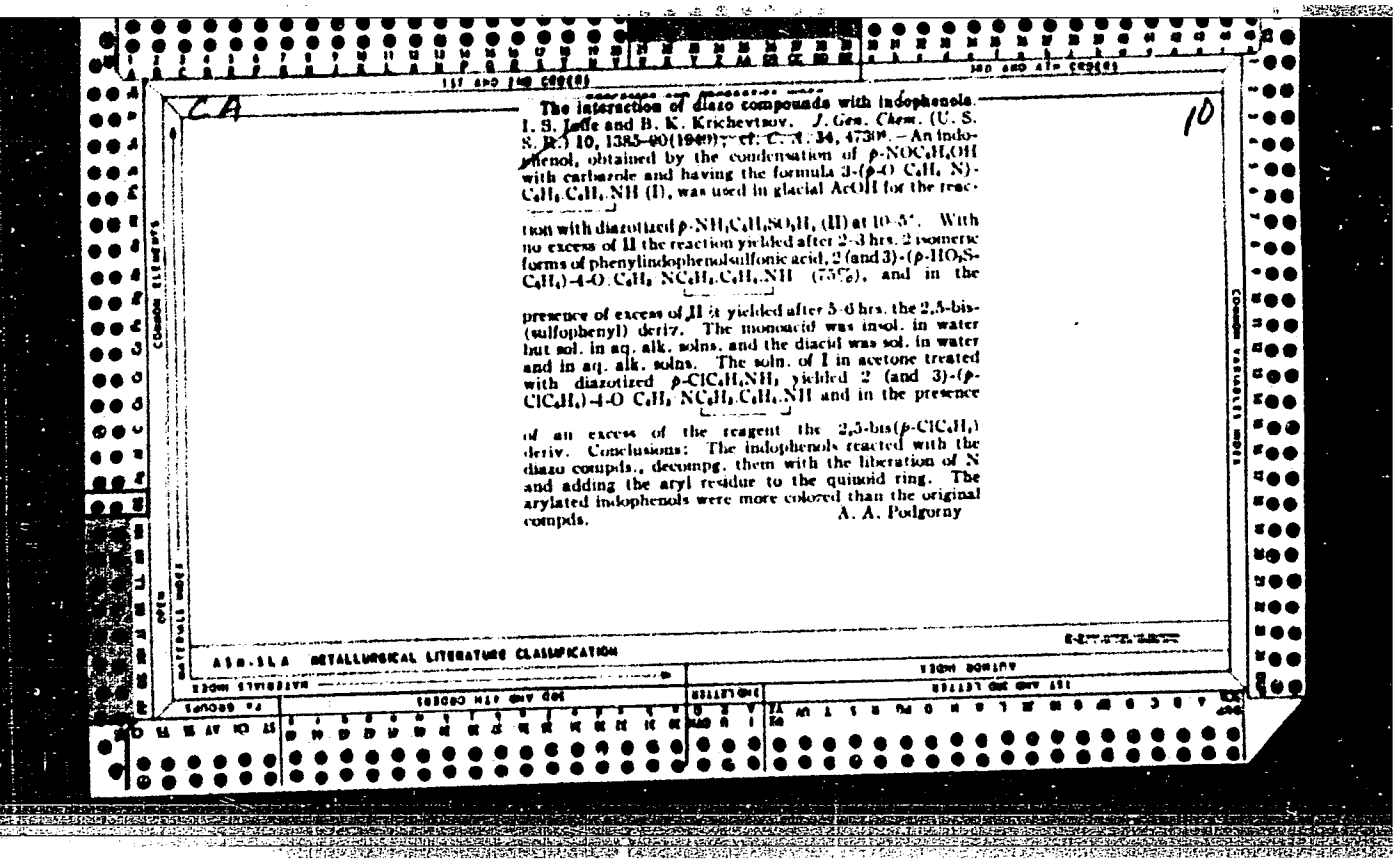
ABSTRACT: This Author Certificate introduces a method of strengthening thin-sheet parts by surfacing with wear-resistant powder deposited with high-frequency current. To maintain a constant gap between the inductor and the surfaced part, ensure a small depth of penetration in the base metal, and to avoid burning through, the inductor is located below the surfaced part. [ND]

SUB CODE: 11/ SUBM DATE: 24Nov62/ ATD PRESS: 4176
Card 1/1 H(2)
UDC: 621.791.927-415



Biaryls and their derivatives. XXI. Oxidation of α-naphthol. I. S. Ioffe and B. K. Kriehevtsov. *J. Gen. Chem.* (U. S. S. R.) 9, 1130-42(1939); cf. *C. A.* 32, 2801⁸.—α-Naphthol (25 g.) in 2.5 l. boiling water is oxidized with 500-540 cc. 5% $FeCl_3$ soln., added dropwise and with stirring at 70-80°, to give a mixt. (21 g.) of 4,4'-dihydroxy-1,1'-binaphthyl (I), m. 308°, difficultly sol. in hot benzene, and *1,1'-dihydroxy-2,2'-binaphtyl* (II), m. 220°, sol. in hot benzene. I and II with Ac_2O in pyridine form the *di-Ac derivs.*, m. 217° and 160°, resp. Both I and II form azo dyes. I with diazotized *p*-nitroaniline in alk. soln. gives the *1-azo*, dark red and the *4,3'-diazo deriv.*, dark red, m. above 350°. II gives the *4-azo*, red powder, and the *4,4'-disazo compd.* (III), brick-red, m. above 300°. Of the 4 dyes only III, having 2 OH groups ortho to the azo groups, is insol. in alkali. I (5 g.) with 25 g. $AlCl_3$ heated under anhyd. conditions at 150-160° for 3 hrs. undergoes cyclization with the formation of 3,10-perylenequinone, dark brown, m. 350°, and 3,10-dihydroxyperylene (IV), yellow, m. 227°; di-Bz deriv., m. 295°. IV distd. with Zn dust gives perylene, orange, m. 270°. II with $AlCl_3$ is recovered unchanged. II (5 g.) with 20 g. $ZnCl_2$ under anhyd. conditions at 220-50° for 4 hrs. gives 2.5 g. 2,2'-binaphthyl 1,1'-oxide, grayish yellow, m. 182°, unchanged when distd. with Zn dust; picrate, m. 173°. I fused with $ZnCl_2$ under the same conditions remains unchanged. **XXII. Biphenanthryl dioxide.** I. S. Ioffe. *Ibid.* 1143-4.—Oxidation of 2-hydroxyphenanthrene with $FeCl_3$ in AcOH or EtOH gives 2,2'-dihydroxy-1,1'-biphenanthryl, which, with an equal wt. of Ag_2O in boiling benzene for 6 hrs., is oxidized to *1,1'-biphenanthryl 2,10',2',10-dioxide* (V), bright yellow, m. 280°. V is extremely stable and remains unaltered after treatment with strong oxidizing agents.

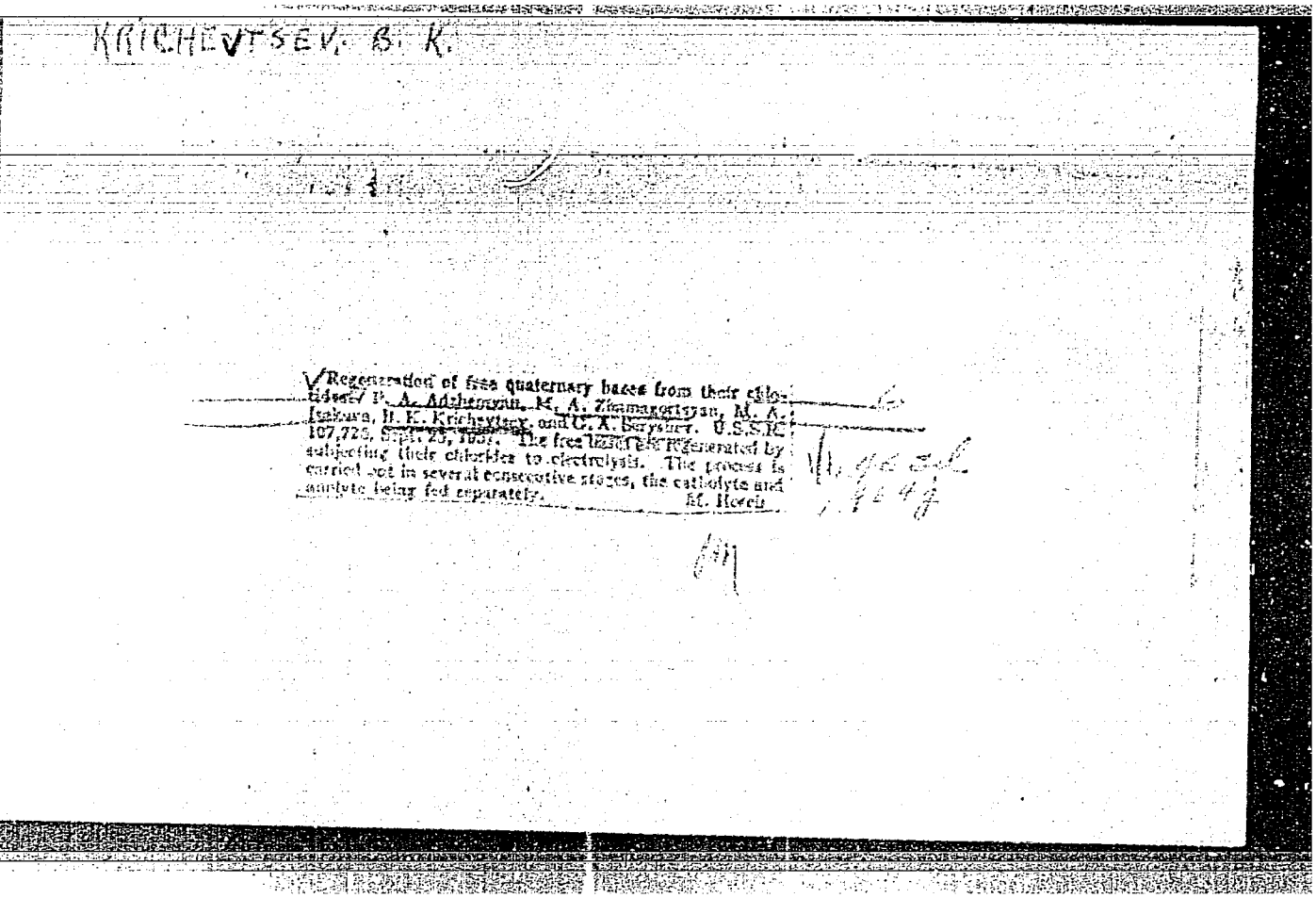
John Livak



CA 10

The interaction of diazo compounds with indophenols. I. S. Ioffe and B. K. Krichevtsov. *J. Gen. Chem.* (U. S. S. R.) 10, 1385–90(1940); cf. C. A. 34, 4730⁹. – An indophenol, obtained by the condensation of *p*-NOC_6H_4OH with carbazole and having the formula 3-(*p*-O C_6H_4 N)-$C_6H_3C_6H_3$.NH (I), was used in glacial AcOH for the reaction with diazotized *p*-$NH_2C_6H_4SO_3H$, (II) at 10–5°. With no excess of II the reaction yielded after 2–3 hrs. 2 isomeric forms of phenylindophenolsulfonic acid, 2 (and 3)-(*p*-HO_3S-C_6H_4)-4-O C_6H_3 $NC_6H_3.C_6H_3$.NH (75%), and in the presence of excess of II it yielded after 5–6 hrs. the 2,5-bis-(sulfophenyl) deriv. The monoacid was insol. in water but sol. in aq. alk. solns. and the diacid was sol. in water and in aq. alk. solns. The soln. of I in acetone treated with diazotized *p*-$ClC_6H_4NH_2$ yielded 2 (and 3)-(*p*-ClC_6H_4)-4-O C_6H_3 $NC_6H_3.C_6H_3$.NH and in the presence of an excess of the reagent the 2,5-bis(*p*-ClC_6H_4) deriv. Conclusions: The indophenols reacted with the diazo compds., decompg. them with the liberation of N and adding the aryl residue to the quinoid ring. The arylated indophenols were more colored than the original compds.

A. A. Polgorny



KRICHEVTSEV, B. K.

Regeneration of free quaternary bases from their chlorides. P. A. Akhmetova, M. A. Ziamangiiyan, M. A. Isakova, B. K. Krichevtsev, and O. A. Saryshev. U.S.S.R. 107,726, Sept. 25, 1957. The free bases are regenerated by subjecting their chlorides to electrolysis. The process is carried out in several consecutive stages, the catholyte and anolyte being fed separately. M. Hoch

AUTHORS: Korol'kova, M. D., Krichevtsov, B. K. SOV/79-28-11-2/55

TITLES: Physico-Chemical Analysis of the Formic Acid - Dimethyl Formamide System (Fiziko-khimicheskiy analiz sistemy murav'inaya kislota - dimetilformamid)
Density, Viscosity, and Electric Conductivity in the Formic Acid - Dimethyl Formamide System (Plotnost', vyazkost' i elektroprovodnost' v sisteme murav'inaya kislota - dimetilformamid)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11, pp 2915-2920 (USSR)

ABSTRACT: As is known, the acid amides have the capability of forming complex compounds primarily with organic and inorganic acids (Refs 1-5). For this reason the physico-chemical analysis of the double system consisting of formic acid and its most simple dialkyl substituted amide, the dimethyl formamide, is of both theoretical and practical interest. There are only contradicting references on this system in publications, i.e. that its components form azeotropes with maximum boiling temperatures (Refs 6,7). In the present paper the author aimed at investigating some physico-chemical properties of

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Physico-Chemical Analysis of the Formic Acid - Dimethyl Formamide System. Density, Viscosity, and Electric Conductivity in the Formic Acid - Dimethyl Formamide System

SOV/79-28-11-2/55

the above-mentioned system, first of all density, viscosity, and electric conductivity insofar as the results obtained agreed with the present idea of the properties of such systems. Thus, density, viscosity, and electric conductivity in the dimethyl formamide - formic acid system were determined at 20, 25, 80, and 100°. The isothermal lines of viscosity and electric conductivity, the curves of the electric conductivity temperature coefficients as well as the cryoscopic determinations of the molecular weight tend to show the presence of the compound $HCOOH^{\cdot}HCON(CH_3)_2$. Figures and tables illustrate the results in the experimental part. There are 2 figures, 5 tables, and 8 references, 4 of which are Soviet.

SUBMITTED: September 17, 1957

Card 2/2

KOROL'KOVA, M.D.; KRICHEVTSEV, B.K.

Dimethylformamide. Biul.tekh.-ekon.inform. no.2:10-12 '59.
(MIRA 12:3)
(Formamide)

S/595/60/000/000/002/014
E075/E435

AUTHORS: Korshak, V.V., Sosin, S.L., Krichevtsev, B.K.

TITLE: Formation of terephthalic acid by catalytic oxidation of p-dialkyl substituted benzene hydrocarbons with molecular oxygen

SOURCE: Vsesoyuznoye soveshchaniye po khimicheskoy pererabotke neftyanykh uglevodorodov v poluprodukty dlya sinteza volokon i plasticheskikh mass. Baku 1957. Baku, Izd-vo AN Azerb. SSR, 1960. 119-130

TEXT: The work described began several years ago with the aim of finding means of producing terephthalic acid by oxidation with oxygen from the air. A review of the previous work leads to the conclusion that the oxidation of p-dialkylbenzenes in the gaseous phase is not feasible due to relatively poor thermal stability of terephthalic acid. A new improved method of producing terephthalic acid is described, whereby p-xylene and methyltoluate are oxidized simultaneously in the liquid state. In this process each of the components oxidizes more readily than the compounds taken separately, with 90% yield. The improvement is explained by the presence in the mixture of p-xylene which

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Formation of terephthalic acid ...

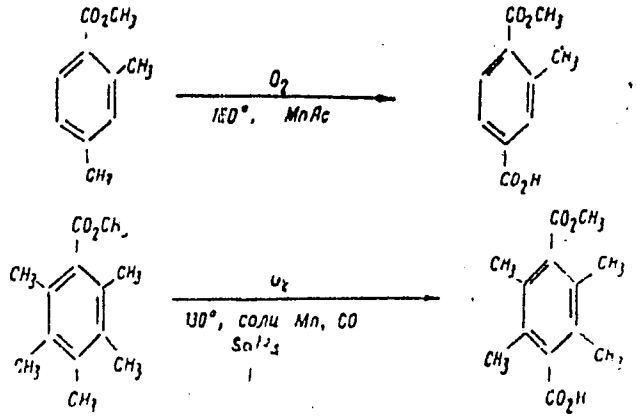
helps to maintain the reacting mass liquid and thus facilitates the absorption of oxygen. From the point of view of the chemistry of oxidation, the reaction of a compound difficult to oxidize is facilitated in the presence of another compound which is easy to oxidize. This is in accordance with the radical-peroxide mechanism of Semenov-Bach. The simultaneous oxidation is carried out in a stainless steel reactor. It was noticed that certain metals, such as copper, inhibit the oxidation process. Finally, a two-stage process for the production of dimethyl-terephthalate was established. The first stage is the oxidation of p-xylene (98% purity). The best conditions for this process are as follows: Catalyst - salts of cobalt (oleate, resinate, mixtures of acids C_7-C_9, C_{14}-C_{16}), 0.2%; Temperature: 140 to 145°C. Pressure: 5 to 10 atm; amount of air: 200 litres/h for 1 litre of p-xylene; time of oxidation: 4 to 5 h. Under these conditions 40 to 45% of p-xylene is oxidized to p-toluic and terephthalic acids. The second stage - oxidation of the mixture of p-xylene (35%) and methyl p-toluate (65%) should be carried out at 140 to 190°C in the presence of cobalt salts. The yield of acids is between 85 and 90% theoretical. Two methods of

Formation of terephthalic acid ...

esterification of the acids with methanol were employed: 1) esterification catalyzed by H_2SO_4; reagent ratios methanol: organic acids:H_2SO_4 equal to 10:1:0.5; the reaction was carried out at 64 to 65°C at atmospheric pressure for 20 to 24 h; the yield was 75 to 80%; 2) thermal esterification methods; no catalyst is used and the reaction is carried out in a continuous reactor at 225 to 230°C under 50 to 100 atm; yield 85%. This method gives methyl p-toluate contaminated with resinous products. Esterification with cathion exchangers as catalysts (types КУ-1 (KU-1), КУ-2 (KU-2) and others) is of great practical interest. At 120°C (5 atm) and a ratio of methanol and acids 9:1 to 2.5:1 and catalyst and acids ratio 2:1, 95% of the acids are esterified in one hour. The reaction can be carried out continuously with the catalyst not losing its activity for more than 500 h. The catalyst can be easily regenerated by washing with HCl or H_2SO_4. The purification of dimethylterophthalate was carried out by vacuum distillation followed by recrystallization from methanol. The formation of aromatic dicarboxylic acids by oxidation of methyl esters is of general applicability as shown below

Card 3/5

Formation of terephthalic acid ...



The work was carried out at the Laboratoriya vysokomolekulyarnykh soyedineniy INEOS AN SSSR (Laboratory for high-molecular compounds INEOS AS USSR) and later at the MKhTI im. Mendeleyeva.

Formation of terephthalic acid ... S/595/60/000/000/002/014
E075/E435

K.V.Borisova, Yu.A.Stepikheyeva, N.I.Bekasov, M.V Chistyakov R.G.Avarbe, M.Kh.Karlina, A.P.Tumayeva, M.S.Khomutin S.S.Magidova and V.M.Berenblit participated in the work. S.R.Rafikov, B.V.Suvorov, I.F.Bayev, P.G Sergeyev, A M Sladkov Kruzhalov and P.Shorygin are mentioned in the article in connection with their contribution in this field. There are 1 figure, 3 tables and 16 references: 6 Soviet-bloc and 10 non-Soviet-bloc. The four most recent references to English language publications read as follows

Ref.7: Chem. Engineers, v.61, no.4, 1954, 106.
Ref.10: Industr. Engng. Chem., v.23, 1954, 1886.
Ref.13: Pines H., Kvetinskas B., Ipatieff V. J. Am. Chem. Soc., v.77, 1955, 343;
Ref.14: Pines, Shaw. J. Org. Chem. v.20, 1955, 374.

Card 5/5

KRICHEVTSOV, I.P., inzh. (g.Pyatigorsk)

Design and construction of hydraulic structures on sagging ground.
Gidr. i mel. 12 no. 12:29-38 D '60. (MIRA 14:1)
(Hydraulic engineering)

KRICHEVTSOV, I.P., inzh.

Terek-Kuma Canal. Gidr. i mel. 13 no.5:3-12 My '61. (MIRA 14:5)

1. Yuzhgiprovodkhoz.

(Terek-Kuma Canal)

SOV/137-58-10-20899

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 77 (USSR)

AUTHOR: Krichevtsov, N.N.

TITLE: Improvements in Die Design (Usovershenstvovaniye konstruktsiy shtampov)

PERIODICAL: V sb.: Mashinostroitel' Belorussii, Nr 4, Minsk, 1957, pp 68-70

ABSTRACT: A description is offered of a die with a clamp (C) of new design for bending rolled shapes on bulldozers. The use of the C makes it unnecessary any longer to straighten the work pieces, the job becomes less laborious, the C is no longer in the bending zone, and this makes it possible to use lubricant and bend the products with heating and without clogging the C with scale. A description is offered of the design and operation of a high-output compound die for blanking a contour and punching three oval holes, whereby 2 items are produced by a single stroke of the press. The use of this die increases output 5 times.

1. Dies--Design

Card 1/1

Ye.M.

LITVINENKO, L.M.; DADALI, V.A.; SAVELOVA, V.A.; KRICHEVTSOVA, T.I.

New method of synthesizing arylsulfonyl bromides and iodides.
Zhur. ob. khim. 34 no.11:3730-3733 N '64 (MIRA 18:1)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo.

KRICHIGIN, S.

LOPATINSKIY, S., inzhener; KRICHIGIN, B., inzhener.

Packaging flour and grits at mills. Muk.-elev.prom. 20 no.6:22-24 Je '54. (MLRA 7:8)

1. Vsesoyuznaya shkola masterov-krupchatnikov (for Lopatinskiy)
2. Mel'nichnyy kombinat imeni TSyurupy (for Krichigin)
(Flour) (Meal) (Packaging)

KRICHIGIN,B., inzhener

Mechanical raising of the sewing head of a bag-closing machine.
Muk.-elev.prom.21 no.6:23-24 Je'55. (MLRA 8:10)

1. Mel'nichnyy kombinat imeni A.D.TSyurupy
(Sewing machines)

KRICHIGIN, B.

Production and technical council of the TSiurupa Milling Combine.
Muk.-elev.prom. 22 no.2:13-14 F '56. (MLRA 9:6)

1.Mel'nichnyy kombinat imeni TSyurupy.
(Grain milling)

KRICHIGIN, B., inzhener.

Improving the construction of brushes used for cleaning screens.
Muk.-elev.prom. 22 no.7:24 Jl '56. (MLRA 9:9)

1. Mel'nichnyy kombinat imeni A.D.TSyurupy.
(Separators (Machines)) (Grain-milling machinery)

KRICHIGIN, B., inzhener.

Device for the automatic feeding of roller mills. Muk.-elev.prom. 22 no.12:23-24 D '56. (MLRA 10:2)

1. Moskovskiy mel'nichnyy Kombinat im.TSyurupy.
(Grain-milling machinery)

KRICHIGIN, B.

New technological practices in milling high-grade flour. Muk.-elev. prom. 25 no.4:10-14 Ap '59. (MIRA 13:1)

1.Glavnyy inzhener mel'nichnogo kombinata im. A.D. TSyurupy.
(Grain milling)

KRICHIGIN, B., inzh.

Exhibition of recently developed and invented equipment at the TSyrupa Milling Combine. Muk.-elev.prom. 25 no.6:19 Je '59. (MIRA 12:9)

1. Moskovskiy mel'nichnyy kombinat im. TSyrupy.
(Grain-milling machinery--Exhibitions)

KRICHIGIN, B.

Workers of the TSiurupa Grain Milling Combine are striving for the title of enterprise of communist labor. Muk.-elev. prom. 27 no.2: 3-6 F '61. (MIRA 14:4)

1. Glavnyy inzh. Moskovskogo ordena Trudovogo Krasnogo Znameni mel'kombinata im. TSyurupy.
(Moscow—Flour mills)

KRICHIGIN, B.

Results of using caprone sieves at the TSiurupa Grain Milling Combine. Muk.-elev. prom. 27 no.7:19 Jl '61. (MIRA 14:7)

1. Glavnyy inzh. Moskovskogo mel'nichnogo kombinata im. TSyurupy. (Moscow--Flour mills) (Sieves)

KRICHIGIN, B.

In the local organization of the scientific and technical society of the TSiurupa grain milling combine. Muk.-elev. prom. 27 no.9: 9-10 S '61. (MIRA 15:2)

1. Glavnyy inzh. mel'kombinata im. TSyurupy.
(Grain milling)

KRICHIGIN, B.

Practice of enriching flour in the TSiurupa grain milling combine.
Muk.-elev. prom. 28 no.2:13-15 F '62. (MIRA 15:3)

1. Glavnyy inzh. Moskovskogo mel'nichnogo kombinata im. TSyurupy.
(Flour mills)

KRICHIKOV, P.F., gornyy inzh.; FEDOSEYEV, P.I., gornyy inzh.; KHINN, G.L., gornyy inzh.; YARMIZIN, V.A., gornyy inzh.

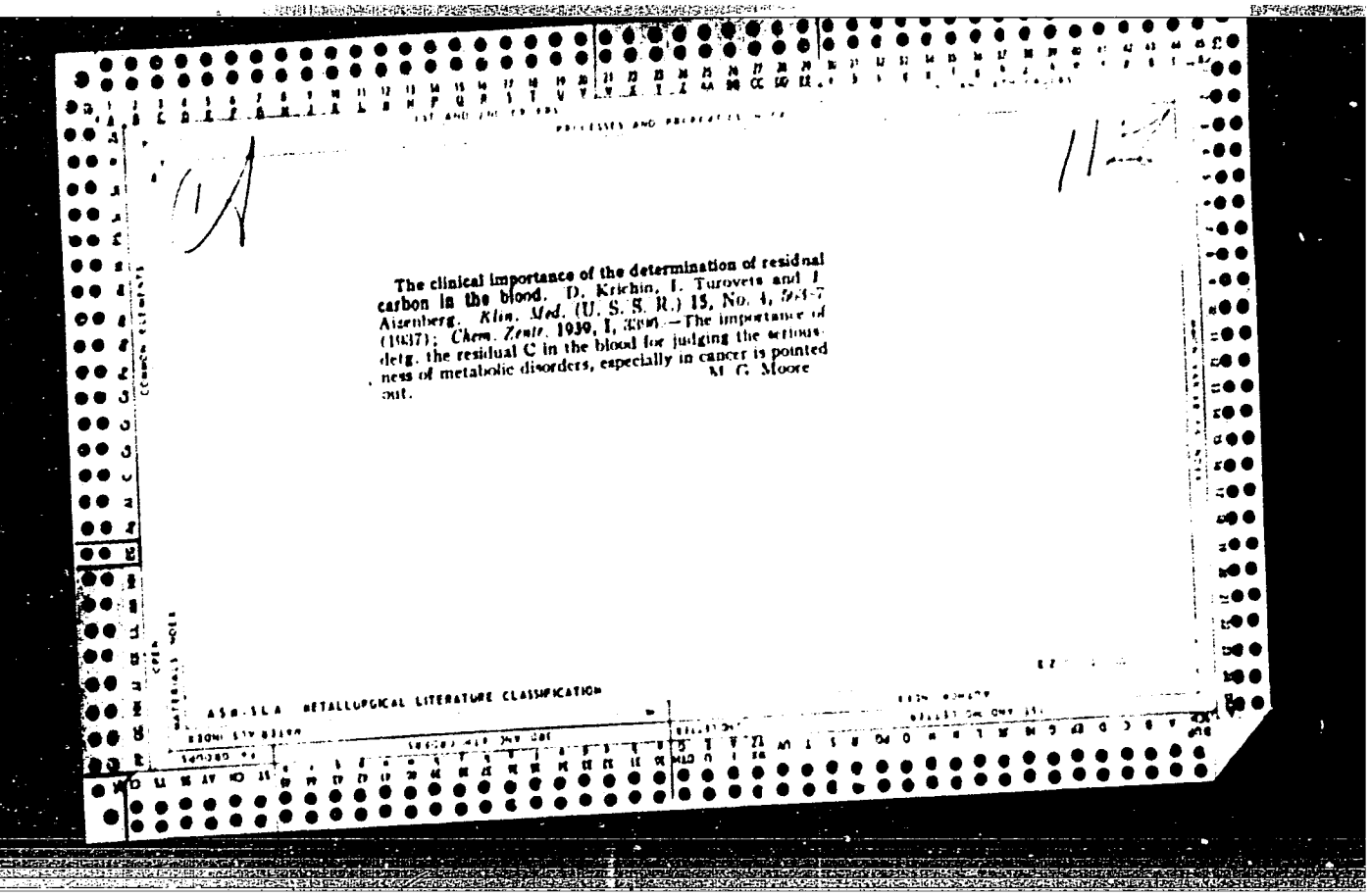
Semiautomatic control of the mechanisms of hoisting equipment shaft doors. Gor. zhur. no.7:51-54 Jl '61. (MIRA 15:2)

1. Tyrnyauzskiy kombinat.
(Mine hoisting)
(Automatic control)

KRICHIN, D. G.

33476. Ostatochnyy Uglerod Krovi I Ego Diagnosticheskoye Znacheniye. Uchen, Zapiski (Chernovits. Gos, Med. In-t) T. 1, 1949, C. 107-11

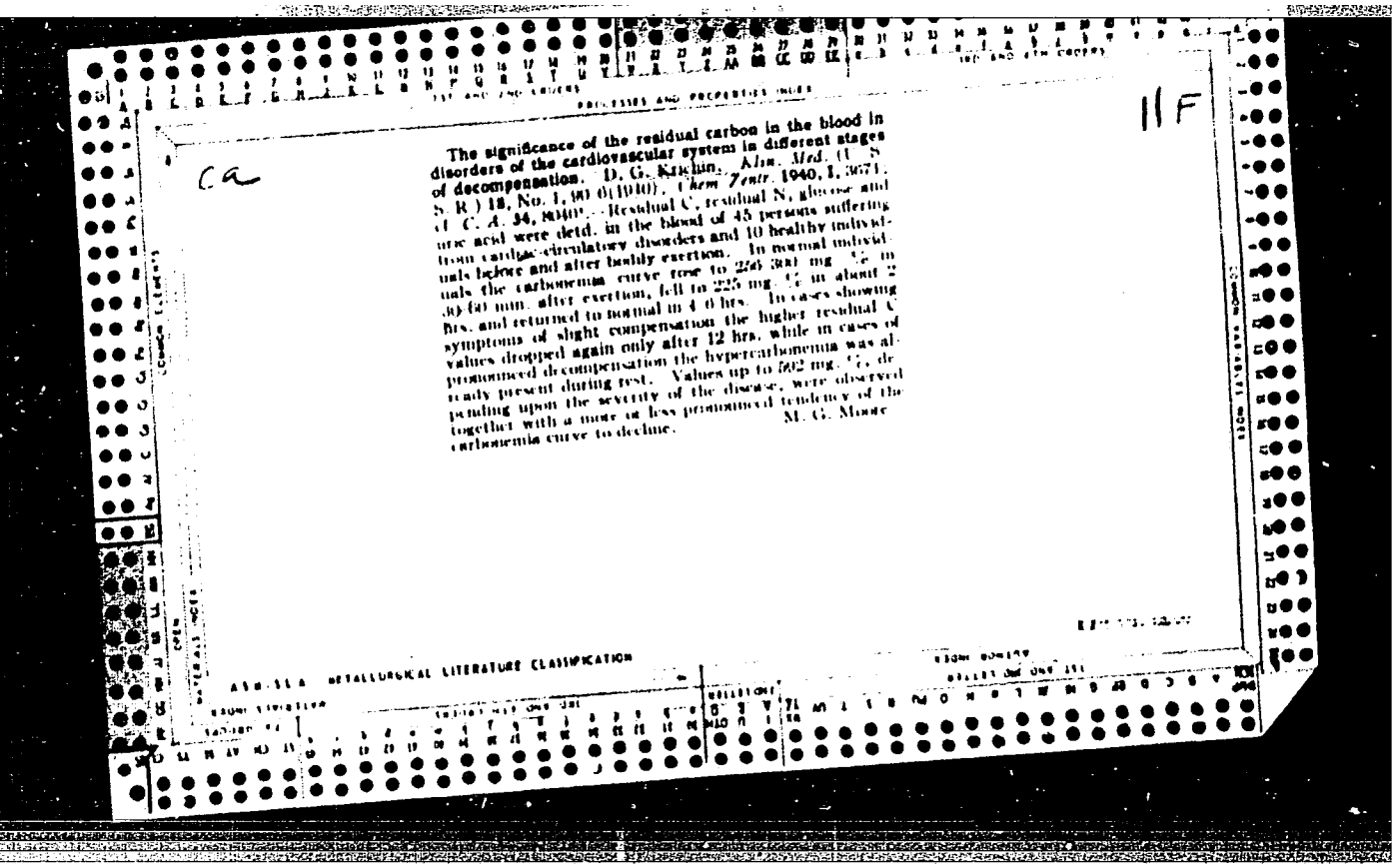
SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949



The clinical importance of the determination of residual carbon in the blood. D. Krichin, I. Turovets and J. Aisenberg. *Klin. Med.* (U. S. S. R.) 15, No. 4, 561-7 (1937); *Chem. Zentr.* 1939, I, 3591.—The importance of detg. the residual C in the blood for judging the seriousness of metabolic disorders, especially in cancer is pointed out.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Ca

11F

The significance of the residual carbon in the blood in disorders of the cardiovascular system in different stages of decompensation. D. G. Kiselin. *Klin. Med.* (U. S. S. R.) 18, No. 1, 80-6(1940). *Chem. Zentr.* 1940, I, 3671. cf. *C. A.* 34, 8400. Residual C, residual N, glucose and uric acid were detd. in the blood of 45 persons suffering from cardiac-circulatory disorders and 10 healthy individuals before and after bodily exertion. In normal individuals the carbonemia curve rose to 226-300 mg. % in 30-60 min. after exertion, fell to 225 mg. % in about 2 hrs. and returned to normal in 4-6 hrs. In cases showing symptoms of slight compensation the higher residual C values dropped again only after 12 hrs. while in cases of pronounced decompensation the hypercarbonemia was already present during rest. Values up to 502 mg. % depending upon the severity of the disease, were observed together with a more or less pronounced tendency of the carbonemia curve to decline.

M. G. Moore

PROCESSES AND PROPERTIES INDEX

11H

ca

Changes of carbon dioxide content in the blood in local and general anesthesia. D. G. Kuchin and P. O. Shkurman (Kiev Med. Inst., U.S.S.R.). *Vrachebnoe Delo* 27, 23-8(1947). An accidental opium poisoning case (unconscious) showed 115% of normal blood CO_2. In clinical cases of various types, $CHCl_3$ narcosis gave up to 60% increase of blood CO_2; Et_2O narcosis gave up to 43% increase. Local anesthesia (method not stated) gave up to 25% increase. The importance of increased blood CO_2 is emphasized in various cases as not only a symptom but a cause of various pathol. manifestations.

G. M. Kosolapoff

METALLURGICAL LITERATURE CLASSIFICATION

KRICHIN, D.G., dotsent (Chernovtsy); SIROTA, R.R. (Chernovtsy)

Rare combination of true rheumatic fever and miliary tuberculosis of the internal organs. Vrach. delo no.3:301-303 Mr '57 (MLRA 10:5)

1. Pervaya gorodskaya bol'nitsa.
(RHEUMATIC FEVER) (VISCERA--TUBERCULOSIS)

KRICHIN, Ya. D.

"Case of Thrombosis in the Inguinal Region," Klin. Med., 26, No.7, 1948

Clinic of Hospital Therapy, Chernovitsy Med. Inst.

KRICHIN, YA. D.
Chemotherapy

Dissertation: "Use of Mercusal in the Chemical Treatment of Internal Diseases."
Cand Med Sci, Kiev Order of Labor Red Banner Medical Inst imeni Academician
A. A.Bogomol'yets, 25 Mar 54. (Pravda Ukrainy Kiev, 15 Mar 54)

SO: SUM 213, 20 Sep 1954

KRICHIN, Ya.D. (Chernovitsy)

Methods for improving the effect of mercusal. Klin.med. 35[i.e.34] no.1:22 Ja '57. (MIRA 11:2)

1. Iz propedevticheskoy terapevticheskoy kliniki (dir. - dotsent M.M.Kovalev) Chernovitskogo meditsinskogo instituta.
(DIURETICS AND DIURESIS)